## MEMORANDUM OF AGREEMENT BETWEEN

THE DEPARTMENT OF DEFENSE

OF THE UNITED STATES OF AMERICA

AND THE

NORTH ATLANTIC TREATY ORGANIZATION CONSULTATION, COMMAND AND CONTROL ORGANIZATION (NC3O)

**CONCERNING** 

AIR COMMAND, CONTROL, COMMUNICATIONS AND INTELLIGENCE CAPABILITIES

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## **PREAMBLE**

The Department of Defense (DOD) of the United States of America, as represented by the Department of the Air Force, and the North Atlantic Treaty Organization (NATO) Consultation, Command and Control Organization, as represented by the General Manager, NATO Consultation, Command and Control Agency (NC3A), hereinafter referred to as the "Parties":

Having a common interest in defense;

Recognizing the benefits to be obtained from standardization, rationalization, and interoperability of military equipments;

Desiring to improve their mutual conventional defense capabilities through the application of emerging technology;

Having a mutual need for the Air Command, Control, Communications and Intelligence Capabilities to satisfy common operational requirements;

Having independently conducted studies, research, exploratory development, and testing of the applications of various technologies, recognize the benefits of cooperation in the Air Command, Control, Communications and Intelligence Capabilities;

Have agreed as follows:

#### ARTICLE I

#### **DEFINITIONS**

The Parties have agreed upon the following definitions for terms used in this Agreement:

C3I

Command, Control, Communications and Intelligence represents the full spectrum of air campaign planning culminating in the commitment of a force to battle. In exercising direction and control of the air battle, the Joint Forces Air Component Commander (JFACC) conducts the following specific tasks:

- a. The determination of when and where to apply air power in concert with the force commanders.
- b. The creation of conditions to give the supported forces the best chance of success.
- c. The adjustment of the air campaign according to mission results and the revised intentions of the joint force commander.
- d. The exploitation of opportunities arising from combat, often within a limited time frame.

CAOC

Combined Air Operations Center. The CAOC plans air operations in accordance with orders and directives received from its higher headquarters. This includes the planning of offensive, defensive and support missions, as well as the development of an air defense posture within an assigned area. The CAOC develops air tasking orders tasking subordinate units to execute the planned air operations.

Classified Information Official information that requires protection in the interests of national security and/or NATO and is so designated by the application of a security classification marking.

Contract

Any mutually binding legal relationship which obligates a Contractor to furnish supplies or services, and obligates one or both of the Parties to pay for them.

Contracting

The obtaining of supplies or services by Contract from sources outside the organizations of the Parties.

Contracting Agency

The entity within the organization of a Party, which has authority to enter into, administer, or terminate Contracts.

Contracting Officer

A person representing a Contracting Agency of a Party who has the authority to enter into, administer, or terminate Contracts.

Contractor

Any entity awarded a Contract by a Party's Contracting Agency.

Controlled Unclassified Information Unclassified information to which access or distribution limitations have been applied in accordance with applicable laws or regulations. Whether the information is provided or generated under this Agreement, the information shall be marked to identify its "in confidence" nature. It could include information which has been declassified, but remains controlled.

Cost Ceiling

The maximum amount to which the cost of the Project may move without the prior written approval of the Parties.

Defense Purposes Manufacture or other use in any part of the world by or for the armed forces of a Party.

DSA

Designated Security Authority. The security office approved by DOD and by NATO to be responsible for the security aspects of this Agreement.

**EMD** 

Engineering and Manufacturing Development. The system/equipment and the principal items necessary for its support are fully developed, engineered, designed, fabricated, tested, and evaluated. The intended output is, as a minimum, a pre-production system which closely approximates the final product, the documentation necessary to enter the production phase, and the test results which demonstrate that the production product will meet stated requirements.

**ICC** 

Initial CAOC Capability. An operational battle management system in use at all levels of air operations in NATO. It provides a full tool kit to plan, manage and monitor the air war. The ICC evolved from an exploratory prototype and is being used in NATO as an interim system.

**IOC** 

Initial Operational Capability. That date when the first unit or units of a system are fielded, have completed testing, and are determined to be ready for deployment and operational field support.

**JFACC** 

Joint Forces Air Component Commander. The joint force air component commander is assigned by the joint force commander. His duties normally include, but will not be limited to planning, coordination, allocation and tasking based on the joint force commander's apportionment decision. Using the joint force commander's guidance and authority, and in coordination with other Service component commanders and other assigned or supporting commanders, the joint force air component commander will recommend to the joint force commander apportionment of air sorties to various missions or geographic areas.

Joint Project

To enable the exchange of C3I related data, information and products resulting from the work conducted by the NC3A within its program of work and by the US in its development of C3I systems with the goal of maximizing interoperability (the "Project").

Patent

Legal protection of the right to exclude others from making, using, or selling an invention. The term refers to any and all patents including, but not limited to, patents of implementation, improvement, or addition, petty patents, utility models, appearance design patents, registered designs, and inventor certificates or like statutory protection as well as divisions, reissues, continuations, renewals, and extensions of any of these.

Project Background Information Information not generated in the performance of the Project.

Project Foreground Information Information generated in the performance of the Project.

Project Information Any information provided to, generated in, or used in this Project regardless of form or type, including, but not limited to, that of a scientific, technical, business, or financial nature, and also including photographs, reports, manuals, threat data, experimental data, test data, designs, specifications, processes, techniques, inventions, drawings, technical writings, sound recordings, pictorial representations, and other graphical presentations, whether in magnetic tape, computer memory, or any other form and whether or not subject to copyright, Patent, or other legal protection.

Project Invention

Any invention or discovery formulated or made (conceived or first actually reduced to practice) in the course of work performed under this Project. The term first actually reduced to practice means the first demonstration, sufficient to establish to one skilled in the art to which the invention pertains, of the operability of an invention for its intended purpose and in its intended environment.

Project-related Computer Software Project Information, including computer programs, databases, and software documentation on machine readable media or in human readable form, directly related to Project support or production. Examples include, but are not limited to, training software, test equipment software, and production engineering software among others.

PSC

Principal Subordinate Commander; identified as air, land or maritime. The PSC (Air) is the NATO equivalent of the US Air Component Commander.

**TBMCS** 

Theater Battle Management Core System is a battle management system for fighting the air war at the theater level. It provides consistent, coordinated battle management at the CAOC and WOC levels (for both operations and intelligence). TBMCS provides a complete tool kit to manage and plan the overall air war and the daily air war.

Third Party

Any government other than the United States Government and any person or other entity whose government is not the United States Government. For the purposes of this Agreement, NATO, NATO's staff, and Contractors of any NATO nation under Contract to NATO for the purposes of this Project are not Third Parties.

WOC

Wing Operations Center. The command center for the wing commander and staff. All pertinent information needed to manage the daily operation of the wing (and host air base) and the execution of the wing responsibilities under an air tasking order is available in this center. The WOC has subordinate organizations reporting operational status, capability and limitations. These subordinate organizations vary with the make up of the wing but may include air base security, flying units/squadrons, hospital, munitions, petroleum, oil and lubricants, base recovery forces, civil engineering, etc.

#### ARTICLE II

#### **OBJECTIVES**

- 2.1. The NC3A-developed Initial CAOC Capability (ICC) System and the US-developed Theatre Battle Management Core Systems (TBMCS) will be used to provide command and control of air and air-related activities. It is in the interest of the Parties that the effort invested and products developed be used to the mutual benefit of the ICC and TBMCS systems. Further, ICC and TBMCS must interface and be interoperable to the maximum extent possible. To achieve these goals, the objectives of this MOA are:
- 2.1.1. Leverage each Party's significant research and development capabilities and investments in technologies and capabilities related to command, control, communications and intelligence (C3I) systems.
- 2.1.2. Cooperatively determine interface and interoperability requirements. Solutions to these requirements may include, but are not limited to, a system interface/translator; application program interfaces; shared applications (commercial off the shelf, government off the shelf, or uniquely developed software); or procedural changes (shared concept of operations or training).
- 2.1.3. Identify and reduce fielding risk in key areas of C3I functionality to satisfy validated user requirements.

## ARTICLE III

#### SCOPE OF WORK

- 3.1. The overall work undertaken under this Agreement includes:
- 3.1.1. Using and improving established test beds for evolving modules of the Parties' systems, providing expanded prototyping capabilities, and conducting beta testing and preliminary field development test and evaluation. Providing feedback derived from test beds and operational users that includes potential fixes to identified problems and contributions to the requirements capture process for incorporation into near-term updates of the Parties' air C3I programs.
- 3.1.2. Enhancing management and the operational capabilities at all levels in the dynamic battlefield by interfacing emerging systems to optimize the distribution of information to commanders and the warfighter.
- 3.1.3. Jointly defining requirements and producing appropriate documentation to complete EMD of elements which may result in incorporating capabilities into the systems of the Parties.

- 3.1.4. Addressing interoperability between the Parties' C3I systems and any system adopted by NATO. However, NATO Air Command and Control System (ACCS) will be covered under a separate agreement.
- 3.1.5. Developing the capability for the Parties' C3I systems to be interoperable.
- 3.1.6. Facilitating access to project specific training courses when available and exchanging documentation and materials to gain a better understanding of each Party's C3I systems.
- 3.1.7. Expanding the systems ability to accept input from and provide output to the Parties' wargaming models.
- 3.2. Subject to national and NATO disclosure policies, specific tasks include, but are not limited to:
- 3.2.1. Under USAF lead, transfer current (and when available future) TBMCS owned software modules (in object code only) and associated documentation to include database structures.
- 3.2.2. Under NC3A lead, transfer current (and when available future) ICC owned software modules (in object code only) and associated documentation to include database structures.
- 3.2.3. Under USAF lead, provide specifications necessary to procure required Commercial-off the Shelf (COTS) software and hardware for TBMCS.
- 3.2.4. Under NC3A lead, provide specifications necessary to procure required COTS software and hardware for ICC.
- 3.2.5. Under NC3A lead, acquire COTS hardware and software required for implementing TBMCS at NC3A.
- 3.2.6. Under USAF lead, acquire COTS hardware and software required for implementing ICC at USAF development location(s).
- 3.2.7. Under USAF lead, provide technical services required for installing, configuring, operating, and maintaining TBMCS at NC3A.
- 3.2.8. Under NC3A lead, provide technical services required for installing, configuring, operating, and maintaining ICC at mutually agreed location(s).

- 3.2.9. Under NC3A lead and USAF collaboration, perform system engineering and software development on ICC, necessary for interoperability with TBMCS and other C3I systems.
- 3.2.10. Under USAF lead and NC3A collaboration, perform system engineering and software development on TBMCS, necessary for interoperability with ICC.
- 3.2.11. Working jointly, perform deficiency analysis on installed systems and provide results to owning development organizations.
- 3.2.12. Working jointly, identify emergent support system requirements for functional applications and operational capabilities for both TBMCS and ICC.
- 3.2.13. Working jointly, prepare an annual plan to address unresolved interoperability and common functional requirements for systems of the Parties.
- 3.2.14. Under USAF or NC3A lead, (depending on the proposed module) perform system analysis of modules and capabilities they contain to evaluate suitability for reuse in the other Parties' air operation and planning systems.
- 3.2.15. Under USAF or NC3A lead, (depending on the proposed enhancement) perform system engineering and software development to incrementally upgrade TBMCS or ICC systems installed at both Parties' locations.
- 3.2.16. Under USAF or NC3A lead, (depending on the proposed enhancement) perform comprehensive testing of jointly developed software to ensure performance standards are met and there are no adverse affects on the Parties' baseline air operation and planning systems.
- 3.2.17. Under USAF or NC3A lead, (depending on the proposed enhancement) integrate jointly developed project computer software into the baselines of air operations planning systems of the Parties.
- 3.2.18. Under USAF or NC3A lead, (depending on the proposed enhancement) integrate new COTS hardware and software into the baseline configuration of the Parties' air operations planning system.
- 3.2.19. Provide each other with Project Related Computer Software and/or documentation to enable the achievement of interoperability between the Parties' C3I systems.
- 3.2.20. As technologies and methodologies evolve and mature, additional tasks within the scope of this MOA may be defined and submitted to the Executive Agents for approval and implementation.